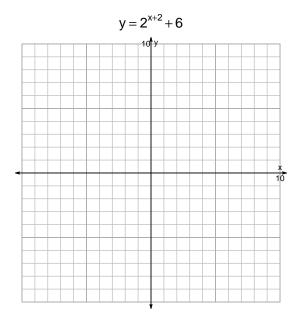
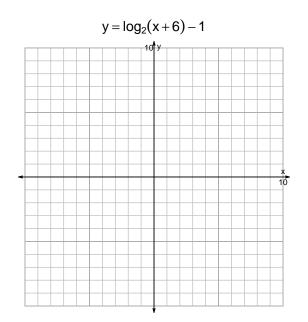
## s18: EXP LOG (QUIZ v307)

1. (10 pts) Graph  $y=2^{x+2}+6$  and  $y=\log_2(x+6)-1$  on the grids below. Also, draw any asymptotes with dashed lines.



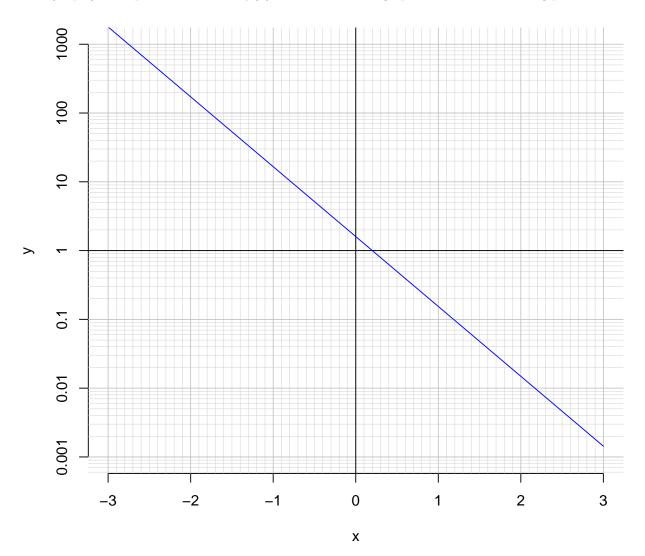


Somewhat useful hint:  $2^3 = 8$ , and thus  $\log_2(8) = 3$ .

2. (10 pts) Write (but do not evaluate) the solution to the equation below by writing a logarithmic expression. Please do not do any arithmetic; just move numbers around.

$$-29 = \left(\frac{-7}{3}\right) \cdot 2^{-5t/4}$$

3. (10 pts) An exponential function  $f(x) = 1.6 \cdot e^{-2.34x}$  is graphed below on a semi-log plot.



- a. Using the plot above, evaluate f(1.7).
- b. The inverse function is logarithmic.

$$f^{-1}(x) = \frac{-1}{2.34} \cdot \ln\left(\frac{x}{1.6}\right)$$

Using the plot above, evaluate  $f^{-1}(700)$ .